ABSTRACT

According to the present invention, a "smart system call" may be implemented. The smart system call employs a code "stub" that is used to make function calls to privileged memory locations. The code stub includes facilities to determine the current mode of execution (e.g., privileged, unprivileged), and where the current mode is sufficiently trusted, allows a direct access to the desired memory address. If the current mode is not sufficiently trusted (e.g., unprivileged), an alternate indirect system call mechanism may be employed, such as an interrupt-based, exception-based, or hardware-assisted system call. Additionally, the smart system call permits selection of a system call method based on processor type, which may be used, for example, for porting to processor architectures which support specialized hardware-assisted system call instructions.